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# मानक

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Mazdoor Kisan Shakti Sangathan

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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 3347-8-1 (1988): Dimensions for Porcelain Transformer Bushings for Use in Lightly Polluted Atmospheres, Part 8: 52 kV Bushings, Section 1: Porcelain Parts [ETD 6: Electrical Insulators and Accessories]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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*Indian Standard*

**DIMENSIONS FOR  
PORCELAIN TRANSFORMER BUSHINGS FOR  
USE IN LIGHTLY POLLUTED ATMOSPHERES**

**PART 8 52 kV BUSHINGS**

**Section 1 Porcelain Part**

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## *Indian Standard*

# DIMENSIONS FOR PORCELAIN TRANSFORMER BUSHINGS FOR USE IN LIGHTLY POLLUTED ATMOSPHERES

### PART 8 52 kV BUSHINGS

#### Section 1 Porcelain Part

#### 0. FOREWORD

**0.1** This Indian Standard ( Part 8/Sec 1 ) was adopted by the Bureau of Indian Standard on 10 October 1988, after the draft finalized by the Electrical Insulators and Accessories Sectional Committee had been approved by the Electrotechnical Division Council.

**0.2** This standard ( Part 8 ) covers the dimensions of porcelain part of 52 kV class transformer bushings for use in lightly polluted atmospheres with the object of ensuring their interchangeability.

**0.3** The porcelain transformer bushings of other voltage ratings for lightly polluted atmospheres are covered in other parts of IS : 3347\*.

**0.4** Presently the transformer bushings of 1 000 A are being covered by this standard and the bushings of other current ratings would be included later.

**0.5** This standard comprises two sections issued as two separate standards. While this section ( Section 1 ) covers the porcelain part of the bushing whereas the dimensions of the metal parts and accessories to go with the porcelain part are covered in Section 2 of this standard.

**0.6** The dimensions covered in this standard essentially apply to the bushing used outdoor with its lower end immersed in oil.

\*Dimensions for porcelain transformer bushings for use in lightly polluted atmospheres.

**0.7** The requirements of the bushings covered by this standard are specified in IS : 2099-1986\*.

**0.8** The porcelain bushings for alternating voltage up to 1 000 V are covered in IS : 7421-1974†.

**0.9** The dimensions of bushings for use in heavily polluted atmospheres are covered in IS : 8603 ( Published in parts )‡.

**0.10** In the preparation of this standard assistance has been derived from DIN 42534 ( Tiel 1 )-1963 'Transformers, outdoor bushings  $U_m$  52 kV for 1 000 A to 3 150 A arrangement', issued by the Deutscher Normensusschuss.

**0.11** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960§. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

\*Specification for bushings for alternating voltages above 1 000 Volts ( *second revision* ).

†Specification for porcelain bushing for alternating voltages up to and including 1 000 V.

‡Dimensions for porcelain transformer bushings for use in heavily polluted atmospheres.

§Rules for rounding off numerical values ( *revised* ).

## 1. SCOPE

**1.1** This standard ( Part 8/Sec 1 ) lays down the dimensions of the porcelain part of the bushing of 52 kV used with transformers for use in lightly polluted atmospheres ( *see* IS : 2099-1986\* ).

## 2. DIMENSIONS

**2.1** The dimensions of the porcelain part for 52 kV/ 1 000 A bushings are given in Fig. 1.

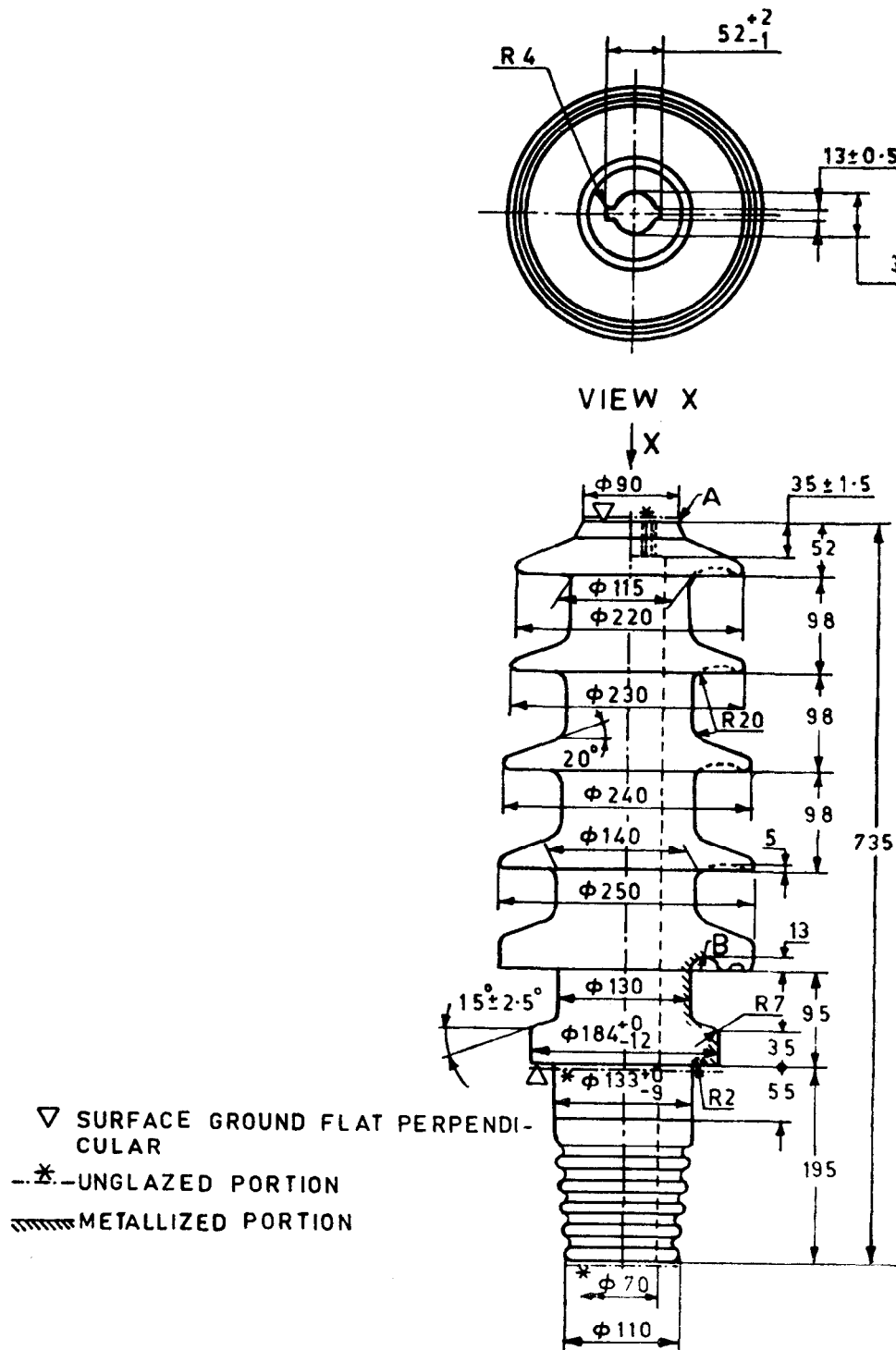
NOTE—The dimensions of bushings for current ratings other than those given in 2.1 will be included later.

†Specification for bushings for alternating voltages above 1 000 volts ( *second revision* ).

**2.2** Unless specified otherwise, tolerance on the specified dimensions shall be  $\pm(0.03 d + 0.3)$  mm, being the dimension in millimetres.

**2.3** Wherever unilateral tolerance on a dimension is given, that tolerance shall be twice the general tolerance given in 2.2. For example, dimension  $X_{Max}$  shall have twice the general tolerance given in 2.2 on lower dimension but *No* tolerance on upper dimension.

**2.4** The minimum specific creepage distance between A and B ( *see* Fig. 1 ) shall be 840 mm ( 16 mm/kV ).



NOTE 1 — Total Creepage Distance : ( A to B ) 840 mm.

NOTE 2 — Metallized Material : Copper/Aluminium Thickness = 0.04 mm

All dimensions in millimetres.

FIG. 1 PORCELAIN PART FOR 52 kV/1 000 A BUSHING